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THE INTEGRATION OF HEARING IMPAIRED STUDENTS

A study guide to the seventh program in the ACCESS television inservice series
ONE GIANT STEP: The Integration of Children With Special Needs



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ONE GIANT STEP: The Integration of Children With Special Needs is a ten-program, inservice series of videotapes. Each videotape has a running time of 15:00 minutes and is supplemented by a study guide. The program order numbers and titles are:

- BPN 2154 01 Introduction
 02 The Integration of Dependent Handicapped Students
 03 The Integration of Trainable Mentally Handicapped Students
 04 The Integration of Educable Mentally Handicapped Students
 05 The Integration of Learning Disabled Students
 06 The Integration of Visually Impaired Students
 07 The Integration of Hearing Impaired Students
 08 The Integration of Physically Handicapped Students
 09 The Integration of Gifted Students
 10 The Integration of Behaviorally Disordered Students

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PROGRAM SUMMARY

This program documents the many aspects of, and options for, integrated education for hearing impaired (HI) students. It gives special emphasis to the importance of early intervention and preschool education. Included are segments of hearing impaired students in integrated settings with corresponding comments from their teachers on some of the problems, techniques and rewards of working with the hearing impaired. Also included is a segment which features a deaf, special-education teacher with his class.

PROGRAM GOALS AND OBJECTIVES

This program is designed to help teachers, school administrators, parents, and others involved with the handicapped to gain background information on HI students. It can be used as a base for effective integration of these students into the regular school environment.

As a result of inservice, participants will be able to:

1. define "hearing impaired" and identify the characteristics of HI students in terms of:
 - a. developmental characteristics
 - b. socio-emotional characteristics
 - c. learning characteristics.
2. identify the relevance of the Cascade Service Delivery Model in integrating these students.
3. describe at least four teaching techniques that can be used in teaching HI students in an integrated setting.
4. list and describe, in general terms, resources, support services, and programs necessary to facilitate the education and integration of HI students.

BACKGROUND INFORMATION FOR THE TEACHER OR WORKSHOP LEADER

The hearing impaired student is one who has some type of malfunction of the auditory mechanism. The hearing disability can range from mild to profound.

CHARACTERISTICS OF THE HEARING IMPAIRED STUDENT

1. Developmental characteristics

Speech and Language: Research has shown that hearing impaired children are prone to develop poor language and speech abilities, particularly when the hearing loss occurs early. Three of the most obvious reasons that cause an HI child to have a more difficult time with language acquisition are:

- a. receiving inadequate auditory feedback when he or she makes sounds.
- b. receiving inadequate verbal reinforcement from adults.
- c. an inability to hear adequately using adult language models.

2. Socio-emotional characteristics

Personality development in normal individuals is greatly dependent upon the process of communication. In terms of social maturity, the ability to take care of oneself, the ability to assist in the care of others, or in becoming independent and self-sufficient, the HI child appears to be on a par with non-impaired peers. During the elementary years, HI children have minimal difficulty socializing with siblings or neighbors but, as they get older, socialization and interaction decrease. This is particularly true if the child is the only hearing impaired person in a family, neighborhood, and/or day school. Because of the communication barrier, all deaf children tend to be isolated in one way or another from the family and the hearing world. Deaf children in residential schools have the advantage of close contact with each other, but this may be offset by the lack of a close family relationship.

HI children need social interaction and acceptance to avoid confusion and misunderstanding; this may cause them to associate more frequently with other persons with the same disability.

3. Learning characteristics

The thinking processes and intellect of normal and HI students are similar. However, the latter may not perform intellectual tasks quite as well and could have definite problems with language, particularly in the following areas:

a. Vocabulary This is often learned through context directly from a speaker. A person with normal hearing is exposed to various words many times in numerous situations and, although he or she may at first be unsure of their meaning, can generally say the words and gradually perceive their meanings and how to use them correctly. A hearing loss makes it difficult to receive the spoken word accurately, thus making new vocabulary acquisition difficult. Often, words with many meanings confuse an HI child. For example: a river “runs”; she has a “run” in her stocking; did he “run” upstairs?

b. Syntax. The patterns of any language are learned by hearing them. Sentence structure may confuse an HI child, who often learns faulty sentence structure and usage. For example, this student may say “Then she looked at around her brother,” or “The girl runned, too.” Artificial learning is reflected in these sentences. In the first one, the structure is close to being correct; it is similar perhaps to what would be experienced in learning a foreign language, if one had not had much exposure to hearing it spoken. In the second sentence, the pattern is correct, but the tense usage reflects lack of memorization. Natural sentence order is not developed through auditory channels: “Garden plant me” from an HI child might mean “I planted a garden.” Further, shades of meaning can be misinterpreted from change in intonation by non-impaired people:

I KNOW I saw him yesterday.
I know I say HIM yesterday.
I know I SAW him yesterday.
I know I saw him YESTERDAY.

c. Speech. In hearing-impaired individuals this is often breathy, nasal, and “different” in every respect from the norm, but the task of acquiring and maintaining good speech habits is of great importance. One

learns to listen to one’s own voice and compare it with the speech of others, but HI individuals must rely on visual feedback, or their use of small amounts of hearing, in order to make adjustment/corrections.

Hearing loss will often affect this student’s language performance as well as articulation, i.e., how he or she says something. Speech misarticulations and omissions, particularly of word endings—(s), (es), (z), (ez), (-t), and (-ed)—are often present in the HI student’s speech and written language. Correction of speech problems should always be considered in the broad terms of language development.

d. Reading. This entails the association of writing symbols with meaning, based on sounds. Hearing loss restricts acquisition of associations, and the lack of language, or vocabulary, seriously retards reading achievement. Understanding science, social studies, even mathematics, depends upon reading skills and comprehension.

Reading aloud is one way of helping to identify reading problems in non-impaired children; the hearing impaired, however, can often read aloud quite well, using their background in speech training—but they may be unable to comprehend meaning.

THE CASCADE SERVICE DELIVERY MODEL

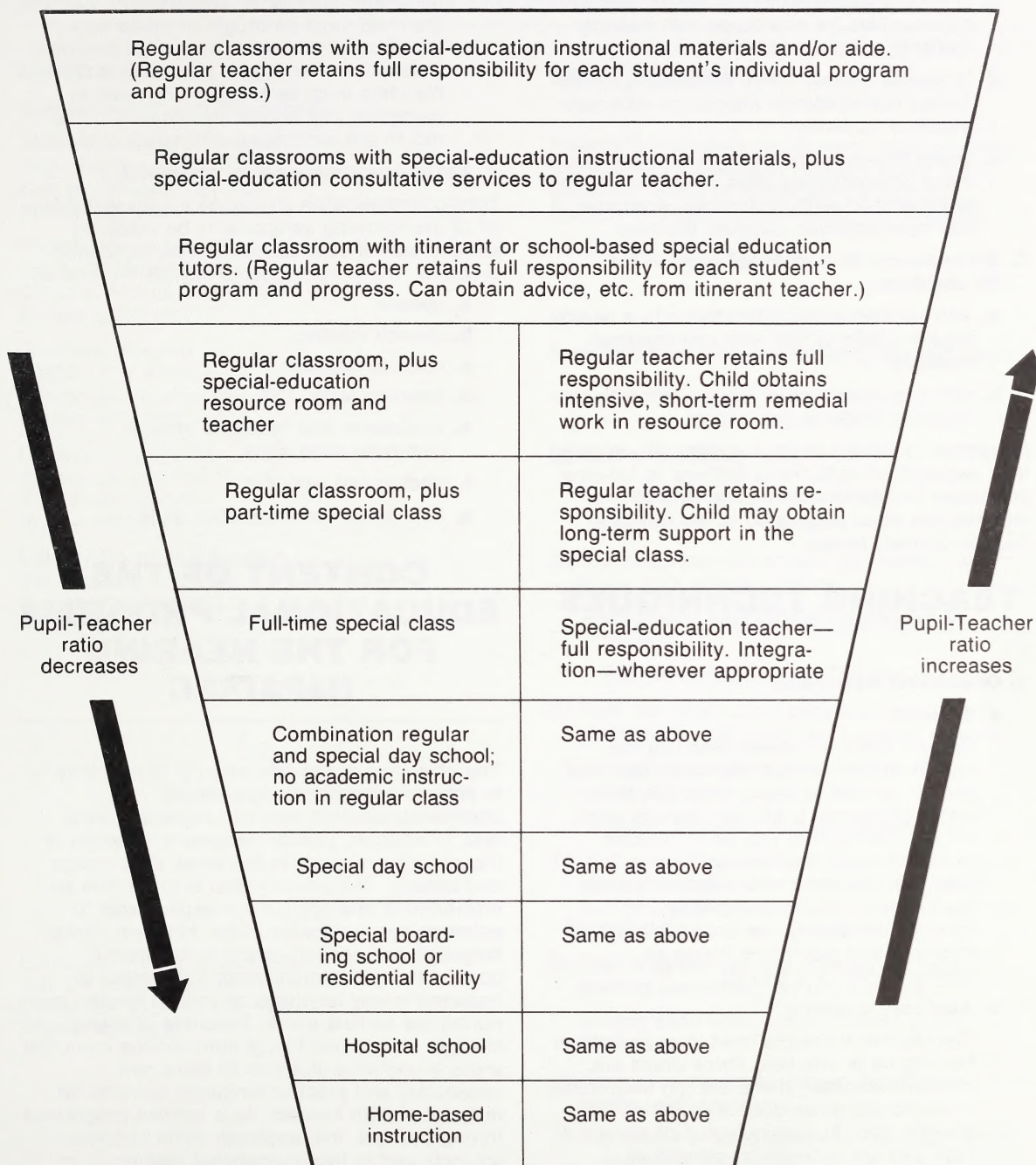
For some HI students, the educational environment will—and should be—in the regular public school with appropriate support personnel. For others, the environment will be special-school placement, with special staff to provide an intensified program.

Various settings from the Cascade Service Delivery Model for the HI student can be interpreted as follows:

1. Attendance in a regular public school

- a.** without special services. The student is a member of a class with only such ancillary services as speech therapy and remedial reading, which are also available to other students in the class.
- b.** with tutors, itinerant teachers, a resource room, amplification modifications, a buddy system, interpreters, or other support services for students with special needs.

CASCADE SERVICE DELIVERY MODEL *



* Adapted from the Reynolds framework (1962)¹, the Dunn model (1963)², and the Deno cascade model of special education services³

¹Reynolds, Maynard C. "A Framework for Considering Some Issues in Special Education" in *Exceptional Children*, Vol. 28, No. 7, March 1962, p. 368.

²Dunn, Lloyd M., ed. *Exceptional Children in the Schools: Special Education in Transition*. New York: Holt, Rinehart, Winston, 1963, p. 37.

³Deno, Evelyn. "Special Education as Developmental Capital" in *Exceptional Children*, Vol. 37, No. 3, November, 1970, p. 235.

- c. in special classes for HI students, but with opportunities for interaction with hearing students, whenever possible.
- d. in special classes for HI students, but with limited non-academic interaction with non-impaired students.
- e. where non-impaired students are brought into a self-contained class for the HI in order to allow short-term, temporary, academic and non-academic activities to occur.

2. Attendance in a special school for HI children

- a. with planned social interactions in a nearby regular public school with non-impaired students.
- b. with unplanned social interactions with non-impaired students and adults.

Integration is viewed along a continuum ranging from segregated institutional settings to full-time placement in regular classrooms, with all the intermediate steps suggested in the Cascade Service Delivery Model.

TEACHING TECHNIQUES

1. Oral/Aural approach

a. Speech

Speech training involves teaching the individual how to modulate voice tone and quality, as well as using inflection, pace, and reasonance. It will also include work on articulation. The way an HI student produces words and sentences may be defective. Common errors are omissions (leaving out a sound completely), substitutions (using one sound in place of another), and distortions (using an approximation of a sound).

b. Auditory training

The teacher trains the child to use whatever hearing he or she has. Three areas are stressed. In order, these are: (1) awareness of sound; (2) gross discrimination of sounds; and (3) discrimination of speech in high and low redundancy conditions.

c. Speech reading

Speech reading teaches children to use visual information to understand what is being said to them. There are three phases of training. The first involves the child learning to pay attention and obtain

meaning from his/her environment. Second, the child must be taught to relate non-verbal cues to messages, particularly non-verbal cues from facial expressions. Third, the child must be taught to lip-read, to recognize that certain movements of the mouth are associated with specific sounds.

2. Total-communication approach

Total-communication strategies emphasize that all of the following components be made an integral part of each student's daily academic program. These components include the use of:

- a. speech
- b. speech reading
- c. residual hearing
- d. listening skills
- e. expressive and receptive manual communication skills
- f. reading and writing
- g. non-verbal communication skills.

CONTENT OF THE EDUCATIONAL PROGRAM FOR THE HEARING IMPAIRED

The challenge in the education of HI students is to provide educational experiences commensurate with their non-impaired peers and, in addition, provide necessary remedial or therapeutic programs in the areas of language and speech. The primary goal is to provide an environment and appropriate experiences to enhance communication skills. However, since language and speech cannot exist without content being communicated, information is imparted in any language or speech lesson, even during the earliest years. Teachers of young children should use topics from various curricular areas to motivate students to learn new vocabulary and practise language patterns on material of high interest. As a student progresses through school, the emphasis shifts to content subjects and to living/vocational matters. Nevertheless, teachers should continue to attend to the needs of students in communication skills while teaching the knowledge necessary for post-secondary education and vocational preparation.*

*from *The Hearing Impaired Curriculum Guide*. Calgary, Alta.: Alberta Education, 1981.

SERVICES FOR THE HEARING IMPAIRED

INSTITUTION OR AGENCY

Assessment and Diagnosis

Alberta Children's Hospital
1820 Richmond Rd. S.W.
Calgary, Alberta T2T 5C7
Phone: 229-7211

Foothills Hospital
1403 - 29 Street N.W.
Calgary, Alberta T2N 2T9
Phone: 270-1110

Glenrose Hospital
10230 - 111 Avenue
Edmonton, Alberta T5G 0B7
Phone: 471-2262

University of Alberta
89 Avenue and 114 Street
Edmonton, Alberta
Phone: 432-3111

Calgary Board of Education
515 Macleod Trail, S.E.
Calgary, Alberta T2G 2L9
Phone: 268-8211

Edmonton Public School Board
10010 - 107A Avenue
Edmonton, Alberta T5H 0Z8
Phone: 429-5621

SERVICES PROVIDED

Audiology (including mobile van); hearing clinic;
rural parents (parents of children under 2 1/2
years old) come to obtain advice from the
Speech Therapist in the Pre-School Program

Audiology

Audiology (including mobile van); hearing clinic

Speech and hearing clinic

- (a) Oral program—preschool, elementary, and junior high special classes
 - integration with regular classes where possible
 - Stanley Jones School, Calgary
- (b) Total communication program—preschool, elementary, and junior high special classes
 - integration with regular classes where possible
 - Queen Elizabeth School, Calgary
- (c) Hard-of-hearing students integrated in regular classrooms with itinerant teachers, speech therapy, audiological services, and additional support services where possible.
- (a) Oral program—special classes for hard-of-hearing elementary school students
 - integration with regular classes where possible
- (b) Vocational program—junior, intermediate, and senior level programs
 - provides a basic academic program, social and vocational skills
- (c) Hard-of-hearing students integrated in regular classrooms with *itinerant teacher*, speech therapy, and additional support as available
 - Fulton Place School, Edmonton
 - School for the Deaf.

INSTITUTION OR AGENCY

Association for the Hearing Handicapped
West Entrance: St. Andrew's Catholic School
11342 - 127 Street
Edmonton, Alberta T5M 0R4
Phone: 455-4671

Alberta Children's Hospital
1820 Richmond Rd. S.W.
Calgary, Alberta T2J 5C7
Phone: 229-7211

Glenrose School Hospital
10230 - 111 Avenue
Edmonton, Alberta T5G 0B7
Phone: 471-2262

Rural services include:

Alberta Education Regional Offices

Calgary Regional Office
1200, 615 Macleod Trail, S.E.
Calgary, Alberta T2G 4T8
Phone: 261-6353

Edmonton Regional Office
3rd Floor, 10053 - 111 Street
Edmonton, Alberta T5K 1K4
Phone: 427-2952

Alberta School for the Deaf
6240 - 113 Street
Edmonton, Alberta T6H 3L2
Phone: 427-7858

Associations

Society for the Hearing Handicapped
120 - 13 Avenue S.E.
Calgary, Alberta T2G 1B3
Phone: 264-3185

Calgary Association for the Deaf
c/o Society for the Hearing Handicapped
120 - 13 Avenue S.E.
Calgary, Alberta T2G 1B3
Phone: 264-3185

Alberta Association for the Deaf
Box 1291
Edmonton, Alberta T5J 2M8
Phone: 462-3323

Edmonton Association of the Deaf
Box 654
Edmonton, Alberta T5J 2K8

SERVICES PROVIDED

Kindergarten deaf and hard-of-hearing children;
total communication classes; baby programs

Infant program (1-3 yrs.)—oral- and total-
communication approach; speech and language
therapy; auditory training; pre-language skills;
parental counselling

Preschool age deaf and hard-of-hearing children,
oral program

Special classes in Medicine Hat, Ponoka, and
Coaldale; consultative service in Lethbridge;
speech therapy in all Health Units; hard-of-
hearing students functioning with little service
except consultative service for teachers

Provides program information and consultative
assistance

Provides program information and consultative
assistance

School programs for students aged 5-18, basic
and pre-vocational programs, residential care for
out-of-town students, sign classes

General information service, plus interpreting,
counselling, job placement, volunteer service

Basically fills a social need by bringing HI people
together for social events

General information and assistance

Basically fills a social need by bringing HI people
together for social events

PREVIEWING QUESTIONS

These questions are designed to allow participants to explore their feelings toward the HI. For maximum benefit, it is suggested that participants discuss one or more of the questions in small group settings, then share their ideas in the larger group.

1. What sound would you miss most if you were to become deaf? Why?
2. A deaf child has been enrolled in the same class as your non-impaired child. The teacher wants to teach sign language. Would you object to this? Why or why not?
3. List a variety of jobs in which hearing impairedness would not be a problem.
4. Which of the following would you rather be? Why?
 - a. deaf or blind
 - b. deaf or physically handicapped
 - c. deaf or mentally handicapped.
5. You are in a position to hire an HI person, or a person with a B.Ed., as a file clerk. Which would you hire, and why? (Ask participants if it occurs to them that a deaf person could also have a B.Ed.)

PREVIEWING ACTIVITIES

The following activities are taken from the *P.A.T.H. (Positive Attitudes Toward the Handicapped)* kit and are used courtesy of the Regional Resource Service of Alberta Education, Calgary.

1. Ears

Some HI people can hear some, but not all, sounds. Others will have a minimum of difficulty understanding what is being said, while still others will have a great deal of difficulty.

Materials: cotton balls; paper and pencils.

Activity: Have participants place cotton balls in their ears. Give them paper and pencils, then softly dictate the following word list:

brick	such	able
complex	zebra	icing
date	rifle	much
magnet	plant	game

Invite participants to discuss the following:

Did you have to ask for words to be repeated or said louder? If so, how did you feel?

2. Why Is It Hard to Read Lips?

Lipreading is one method HI people use to improve their understanding of what is being said to them. Many words, however, look the same on a person's lips (pin, pen, bin, Ben). For some words, the lips barely move.

Materials: paper and pencils; chalkboard and eraser.

Activity: Write a word on the chalkboard, but write it one letter at a time. As soon as you have written that letter, erase it. Participants will have to look down to copy the letter, so write quickly enough that they miss some of the letters. Ask what the word was.

Do another word, but this time say each letter out loud.

Suggested word list:

affidavit
botulism
wapiti
ubiquity
stalactite.

Invite participants to discuss the following:

How many people were able to get all of the letters of each word on paper? How long could they have kept this up?

What happened when the letters were read out loud?

3. What Is It Like to Be Deaf?

It is extremely difficult for a person who hears to grasp what it is like to have been born deaf. Even though ears can be plugged, words can still be heard in one's mind. An inner "voice" still talks to us.

Materials: any short film or sound filmstrip (approximately five minutes in length).

Activity: Show a short, interesting film or filmstrip without the sound. Then ask participants to answer various questions you have prepared on the film/filmstrip. Design your questions so that some cannot be answered without having heard what was being said, and some so that they can be answered strictly from the visual viewing.

Show the film/filmstrip again, this time with the sound. Repeat the same questions.

Invite participants to discuss the following:

What parts of the film were you able to understand, even without sound?

What senses can a hearing impaired person use to understand what is going on?

What would life be like if it were completely without sound?

POST-VIEWING QUESTIONS

1. What does Erin have in common with his classmates?
2. How does Sharon (the girl in the biology class) benefit from being with non-impaired peers? Do you see any benefits for the non-impaired peers?
3. What would the major obstacles be if you were to have an HI student join your class? Name some possible ways of overcoming these obstacles.
4. What are some of the areas of language development with which the HI student will have difficulty?
5. If you were hearing impaired, what would be a problem to you in your daily routine? How would you overcome it?
6. If you were deaf, how could you use your other senses to compensate for the loss of sound?

POST-VIEWING ACTIVITIES

The following activities are taken from the *P.A.T.H.* (Positive Attitudes Toward the Handicapped) kit and are used courtesy of the Regional Resource Service, Calgary, Alberta.

N.B.: These activities are intended to give participants practical suggestions on how to experience success when working with the HI student. It is recommended that these activities be carried out in small groups, which later report back to the larger group.

1. Silent Talking

At some time, all of us have used signs to communicate. It may have been as simple as

putting a finger to our lips to request silence. Since it is not every HI who uses sign language—and certainly most hearing people do not—pantomime often becomes the main means of communication.

Materials: message cards.

Suggested messages:

I like you.	I'm angry with you!
This fish smells bad.	Be quiet!
There is a fire in the building!	Would you like to read my book?
It's time for lunch.	I've lost my pencil.
It's raining outside.	I've stubbed my toe.
Do you want a drink?	My car has a flat tire. Can you help?
I don't feel well.	The library says our books are overdue.

Activity: Hand out a message card to each participant. Have them try to communicate their message through pantomime.

Invite participants to discuss the following:

Was this task easy or hard?

What special problems will this type of communication pose in the classroom?

How could you make your classroom work more effective?

Could you use, or devise, another system?

2. Sign Language

Many hearing impaired people use a language of signs to help them communicate. Knowing just a few signs will help you in communicating with an HI person.

Materials: finger-spelling papers; sign-language papers (see pages 10 and 11 for illustration).

Activity: Hand out both types of papers. Let the participants study and practise the signs. Ask them to fingerspell their names and a few simple words. Then ask them to do a few simple sentences in sign language.

Invite participants to discuss the following:

Which is more effective, sign language or pantomime?

How did you feel about signing?

Were you able to understand what was said to you?

How would knowing a few signs aid you in the classroom? In the community?

3. Lipreading

Because many hearing impaired people depend on their ability to read lips, it is important to know the “rules” of speaking to such a person, particularly if you are dealing with the HI in a classroom.

- a. Be natural. Speak distinctly, but not too slowly. Do not mumble, but be aware of mouthing the words.
- b. Raise your voice slightly, but do not yell.
- c. If what you say is not understood, say it again in a different way. Try to think of words that will show on your lips.
- d. Be sure your face and lips can be seen. Position yourself so that your face is in the light. Use facial expressions, but try not to exaggerate.
- e. Do not speak with anything in your mouth.
- f. If necessary, write down what you want to say.

Materials: message cards.

Suggested messages:

- | | |
|---------------------|--------------------------|
| I am hungry. | I feel sick. |
| It is cold in here. | Now we will have a test. |
| What time is it? | What is your name? |
| Could you help me? | My name is _____. |
| Good morning. | What grade are you in? |
| How are you? | What is for lunch? |
| I like that. | I feel happy. |

Activity: Give a message card to each participant, one at a time. Have him or her mouth the message (keeping in mind the aforementioned “rules”). Ask other participants to try to guess what the message is.

Invite participants to discuss the following:

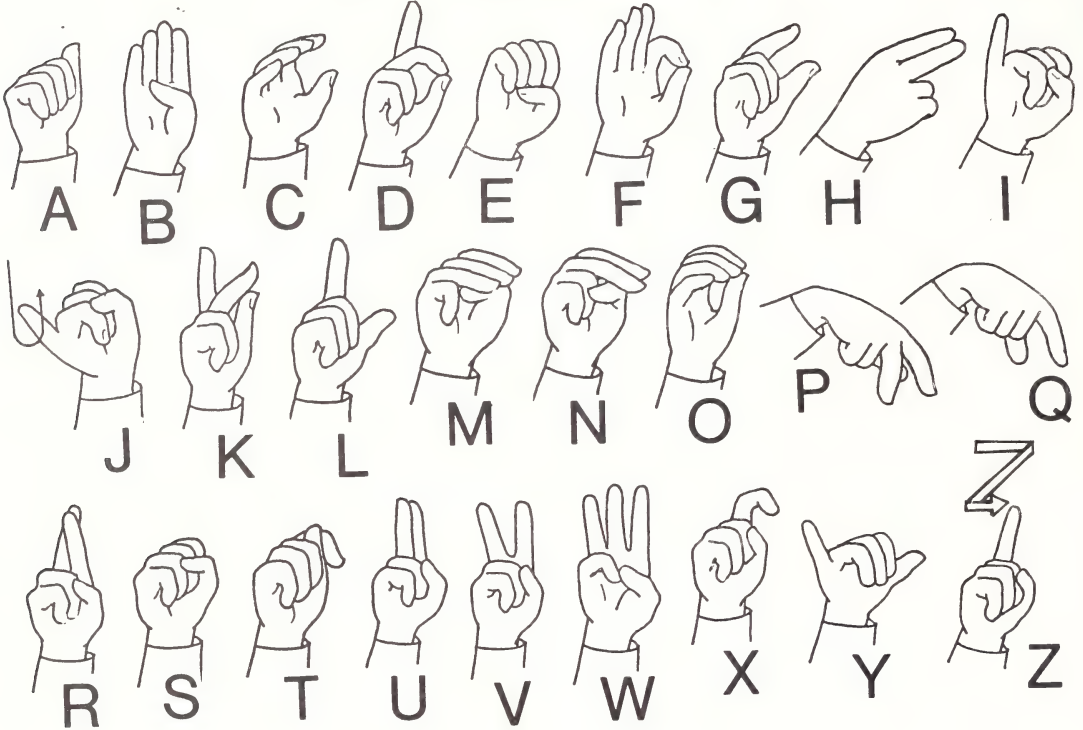
Was this task hard or easy?

Who best communicated their message? Why?

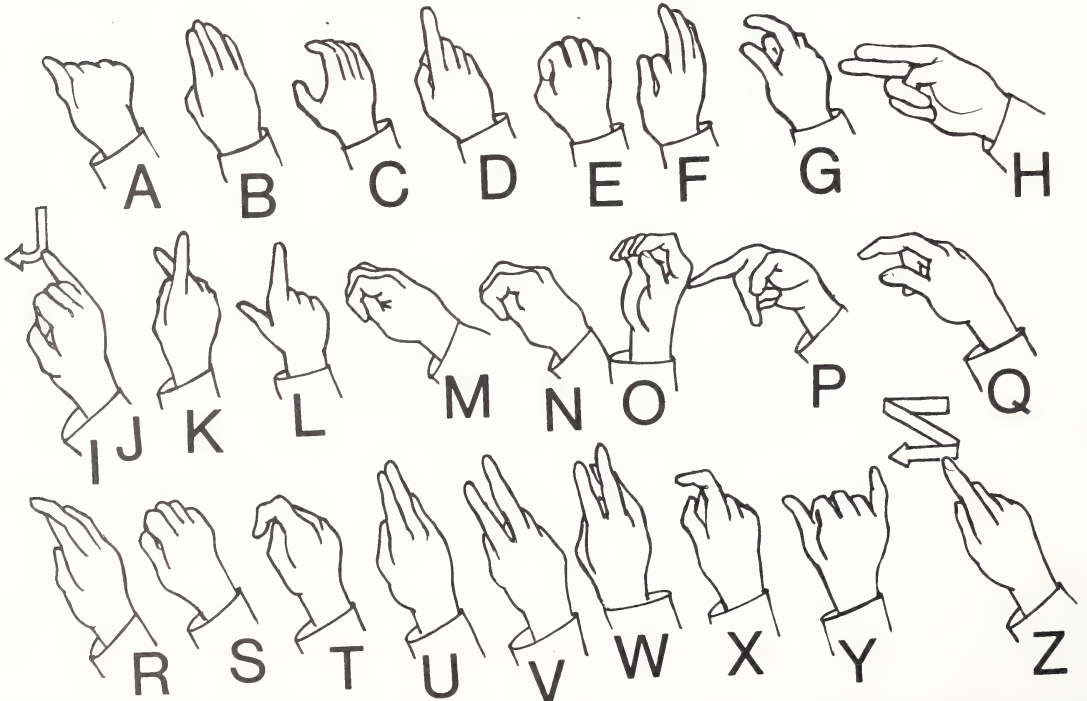
Whose was the worst communicated message? Why?

The Manual Alphabet

(as seen by the receiver)



(as seen by the sender)

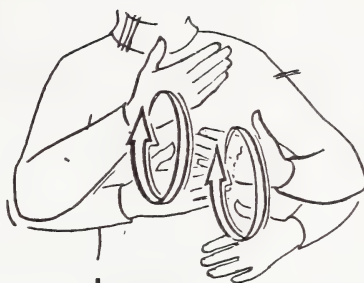




good



name



happy



is



girl



boy



home



am



I



was



bad



family

GLOSSARY

audiologist. A specialist who usually works in a diagnostic/treatment section of a hospital, or occasionally within a school system or systems. He or she provides much needed regular checks on ears and hearing aids.

classroom buddy. A peer helper. A buddy can cue the HI student into such things as changes in schedule, public-address announcements, and nuances of interpersonal behavior.

conductive hearing loss. An interference with the transmission of sound from the external auditory canal to the inner ear. This type of loss can often be corrected through medical treatment or surgery. Amplification does not often help this type of hearing loss. In a conductive-loss situation, an HI individual will hear the word "clear" but the level of hearing is softer.

deaf. The term implies that the hearing impairment is severe, and hearing alone may not be sufficient for comprehension. Therefore, another mode or modes of communication must be employed by the deaf person.

distortions. An approximation of a sound/sounds, e.g., truck, twuck; match, motsh.

hard of hearing. The term pertains to an individual whose hearing loss is sufficient to require either amplification or remedial help in communication skills. Usually, speech is the major means of conversing. The hard-of-hearing individual lives in a "gray" world. He or she cannot hear sounds clearly, but is not completely shut off from sounds.

hearing aid. A device consisting of an amplifier, microphone, and receiver, which brings amplified sound to the HI individual's ear. A hearing aid does not make this individual one who hears. The amount of benefit received from the amplification depends on the type of hearing loss.

hearing impaired. A general term indicating some malfunction of the auditory mechanism. A hearing disability can range from mild to profoundly severe.

inner ear. About the size of a pea, this structure serves two functions. The semi-circular canals control the sense of balance, and the coiled tube or cochlea is the hearing organ.

interpreter/tutor. A non-impaired person, competent in transmitting spoken information

through the use of sign language, who functions as a language facilitator for academic presentations, movies, group discussions, etc.

marked hearing loss. (56 to 70dB). A person with this disability understands only loud conversation. A child so impaired will encounter much difficulty in school situations, especially those requiring participation in group discussions/activities. He or she evidences limited vocabulary, as well as deficiency in language usage and reading comprehension. And most likely also has defective speech. This student will probably need a resource teacher, at least during early training and will need special assistance in developing language, speech, speech reading, and reading skills. The teacher should be particularly aware that this child must rely heavily on vision to learn effectively.

middle ear. This structure is composed of the eardrum and three tiny bones (the ossicles or ossicular chain) called the malleus (hammer-shaped), incus (anvil-shaped), and stapes (stirrup-shaped), contained in an air-filled space. In the process of hearing, sound waves are collected by the auricle (the skin-covered flap of cartilage on either side of the head) and passed down the auditory canal, striking the eardrum and setting the ossicular chain in motion. The footplate of the stapes or stirrup pushes on a membranous window, the oval window which is in the inner ear. The Eustachian tube, which connects the middle ear to the throat, provides drainage as well as equalizing the air pressure in the middle ear.

mild hearing loss. (41 to 55dB). A person with this disability understands conversational speech at a distance of only 3-5 feet. Such a student may miss as much as half of class discussion if in a crowded classroom, if voices are faint, not in line of vision, or if noise levels are unusually high. He or she may benefit from a hearing aid and should be referred to the proper specialist, who would also supervise training in the use of the aid. The teacher should be aware that the student will need good lighting; and careful monitoring should be sustained regarding vocabulary development and reading comprehension. This student will probably also need instruction in speech reading, language, and speech.

mixed hearing loss. This condition can be ameliorated by a hearing aid when the conductive component of the ear is stabilized and medical diagnosis is obtained.

note-taking tutor. A classroom peer who takes duplicate notes or dictation for an HI student. By providing this tutor-type of service, the HI student is free to lipread.

outer ear. This structure consists of the auricle and the external auditory canal. (The auricle is visible on each side of the head.) The external auditory canal contains coarse hairs and earwax, which protect the deeper structures of the ear from dust and dirt.

audiometry. This technique involves establishing rapport with the HI child and motivating him/her to respond. The testing situation is set up as a game. Using pure tones or speech, the examiner teaches the child to do various activities whenever a signal is heard. The activities are designed to be attractive to youngsters and might include picking up a block, squeezing a toy, or opening a book.

prelingual deafness. This term refers to the condition of students whose deafness was present at birth, or occurred at an age prior to the development of speech and language.

postlingual deafness. The condition of students whose deafness occurred at an age following the spontaneous acquisition of language.

profound hearing loss. (9dB or more). A person with this disability will appear to hear some loud sounds, but this is an awareness of vibration, rather than of tonal patterns. Such a student will rely on vision rather than hearing as the primary method of communication.

pure-tone audiometry. A test designed to determine an individual's threshold of hearing at a variety of different frequencies. (Threshold of hearing is the level at which a person can first detect a sound.)

sensor-neural hearing loss. A malfunction caused by the auditory nerve. It cannot be corrected surgically or medically, and the use of amplification is not promising.

severe hearing loss. (71 to 90dB). A person with this disability may be able to hear loud voices about one foot from the ear. He or she can identify some environmental sounds, but speech and language are defective.

slight hearing loss. (25 to 40dB). A person with this disability may have difficulty hearing faint and distant speech, but usually will not experience difficulties. The condition can be corrected with a hearing aid at losses approaching 40dB.

speech audiometry. A method designed to test a person's understanding and detection of speech.

speech clinician. A person, usually working with a school system or a health unit, who provides activities and exercise to improve speech.

substitutions. The practice of using one sound in place of another, e.g., red, wed; soup, thoup; yellow, lellow.

REFERENCES FOR WORKSHOP LEADERS AND TEACHERS

1. Acceptance of the Handicapped

Bookbinder, Susan R. *Mainstreaming*. Boston, Mass.: Exceptional Parent Press, 1978.

A program for educating children and adults alike about disabilities, with emphasis on acceptance of differences. It also lists activities and resource aids.

Cohen, Shirley, *et al.* *Accepting Individual Differences*. Niles, Ill.: Developmental Learning Materials, 1977.

The purpose of this kit is to give children a better understanding of what mental and physical handicaps involve, lead children to a greater acceptance of handicapped people, and increase helping behavior.

P.A.T.H. (*Positive Attitudes Toward the Handicapped*). Calgary, Alta.: Regional Resource Service of Alberta Education, 1978.

This kit contains a variety of materials that encourage a more positive attitude toward, and understanding of, handicapped people. It includes simulation activities and reference materials. (Available from Alberta Education, Calgary Regional Office.)

Ravosa, Carmino C., *et al.* *Put On A Handicap*. Long Branch, N.J.: Kimbo Educational, 1979.

This record is an aid in preparing a class for mainstreaming. It gives children the opportunity to experience handicapping conditions through simulation and role-playing.

Ward, Michael, J., *et al.* *Everybody Counts! A Workshop Manual to Increase Awareness of Handicapped People*. Reston, Va.: Council for Exceptional Children, 1979.

A booklet and corresponding tape designed to help people better understand the struggles, frustrations, and triumphs of the handicapped in today's society.

2. Parent/Teacher References

Alpiner, Jerome, *et al.* *Talk To Me*. Baltimore, Md.: The Williams and Wilkins Company, 1977.

This two-book package is a home-study program of language development for infancy to preschool, hearing impaired children. "How

Your Baby Grows" describes areas of growth in four major areas, and "How To Help Your Baby" describes some everyday activities to stimulate speech and language.

Bornstein, Harry, *et al.* *The Signed English Dictionary for Preschool and Elementary Levels*. Washington: Gallaudet College Press, 1975.

A book that lists words, instructions for signing, and diagrams of signing actions.

Fant, Lou. *Sign Language*. Northridge, Calif.: Joyce Media, 1977.

A manual that teaches the signs and fingerspelling of Ameslan. Uses superimposed pictures to illustrate hand and finger movements. Contains 15 lessons to teach beginning sign language.

Hearing Impaired Curriculum Guide. Calgary, Alta.: Alberta Education, 1983.

Provides general information and specific programming suggestions for the hearing impaired student. This curriculum covers preschool, communication modes, language programs, math, science, social studies, and living vocational skills. Included are detailed reference lists.

Klima, Edward S., and Bellugi, Ursula. *The Signs of Language*. Cambridge, Mass.: Harvard University Press, 1979.

This book demonstrates that human language can develop independently of spoken language. It discusses the origin and development of American sign language, the internal structure of its basic units, the grammatical process it employs, and its use in poetry and wit.

Ling, Daniel, and Ling, Agnes. *Basic Vocabulary and Language Thesaurus for Hearing Impaired Children*. Washington, D.C.: The Alexander Graham Bell Association for the Deaf, 1978.

A text that classifies the words most frequently used by non-impaired children up to the age of seven. This vocabulary is supplemented by words commonly found in early reading materials. Includes an appendix.

Murphy, Harry, and Shoenfield, Dianne Davis. *Games Kids Like and More Games Kids Like*. Tucson, Ariz.: Communication Skill Builders, Inc.

A booklet that provides over one hundred short games that can be used as practice or reinforcement for speech and language skills. Suitable for both home and school.

Orlansky, Janice Zatzman. *Mainstreaming the Hearing Impaired Child*. Austin, Texas: Learning Concepts, Inc., 1977.

Using cartoon illustrations, this text focuses on many aspects of mainstreaming this child, including integration possibilities, terminology, what the regular classroom teacher has to know to help the HI student, and early identification. Includes case studies and a resource list.

Sitnick, Valerie, *et al.* *Parent-Infant Communication*. Beaverton, Oregon: Dormac, Inc., 1977.

This curriculum deals with the infant's acquisition of communication skills and trains parents to help them in that acquisition. The emphasis is on auditory perception, receptive language, and expressive language.

Systems O.N.E. Kit—An Orientation of the Integration of Hearing-Impaired Children Into Regular School Classes. Salt Lake City, Utah: Educational Media Center, 1978.

A kit designed for the teacher with HI students in the regular classroom setting. The cassette tapes and filmstrips will be useful to those unfamiliar with hearing impairment.

Vorce, E. *Teaching Speech to Deaf Children*. Washington, D.C.: The Alexander Graham Bell Association for the Deaf, 1974.

This is a concise book that provides developmental plans for teaching speech at the phonological level. It provides a list, plus description, of games and equipment that can be valuable in meeting the individual needs of deaf children.

3. General References

Bradford, L.J., and Hardy, W.S. *Hearing and Hearing Impairment*. New York, N.Y.: Grune and Stratton, Inc., 1979.

This book consolidates the various approaches, procedures, and techniques for working with the HI. A good source for students, teachers, physicians, and clinicians.

Dale, D.M.C. *Language Development in Deaf and Partially Hearing Children*. Springfield, Ill.: Charles C. Thomas, Publisher, 1974.

Discusses language development and language topics for HI children aged 3-17. The book covers various aids and methods for language acquisition, as well as outlining programs for treatment.

Ling, Daniel, and Ling, Agnes. *Aural Habituation*. Washington, D.C.: The Alexander Graham Bell Association for the Deaf, 1978.

An introductory text that focuses on the HI child's language development. Discusses amplification and individualized instruction, with emphasis on maximizing the child's residual hearing, speech assessment, teaching language development, and program designs.

Silverman, S.R., *et al.* *Speech and Deafness*. Washington, D.C.: The Alexander Graham Bell Association for the Deaf, 1978.

Provides detailed information on the production and development of speech. This book outlines various methods and is a good source for individuals unfamiliar with current and past trends in the education of the deaf. Also a good source for informed parents and professionals in the areas of amplification, mechanical aids, and production of speech sounds.

Stokoe, William C., *et al.* *A Dictionary of American Sign Language and Linguistic Principles*. Silver Spring, Md.: Linstok Press, 1976.

A comprehensive dictionary of American Sign Language and linguistic principles.

GETTING THE MOST FROM A VIDEO PRESENTATION

An educational television program can be an effective and stimulating learning resource. Because of its ability to convey information and meaning through scenes and sounds, television is one of the most effective classroom tools at your disposal. In addition, support materials are available for a number of ACCESS NETWORK programs. Many of these materials—which include student teacher guides and manuals, slides, transparencies, filmstrips, posters, etc.—contain suggestions for previewing and post-viewing activities.

Many teachers have found that the effectiveness of video programming can be enhanced in the following ways:

1. Use the **stop** and **pause** buttons frequently to highlight program segments. This will help break the passive viewing habit created in students by commercial TV and focus their attention on your purpose for showing the program(s).
2. Use the **counter** to prepare for the viewing session. Set it to zero at the start of a program. This will help pinpoint the location of segments to be reviewed later. You can then create a **log** by jotting down the counter numbers that correspond to important segments.
3. Be specific about viewing objectives **before** showing the program. Students will be able to focus their attention better if they are aware of what to look for in a videotape. Prepare a list of guideline questions on the blackboard or on photocopied handouts. (Be sure to cover all of the questions in post-viewing activity.)
4. Since educational television programs generally include more material than can be digested in a single viewing, show the program in its entirety once and then, after clarifying vocabulary difficulties and reviewing specific learning objectives, show selected portions a second, even a third, time. Again, the stop and pause buttons can be used to allow students to take notes—or focus attention on a particular item of importance.
5. Television programs consist of **both** audio and video signals, and viewers often need to be stimulated in order to derive maximum information from both. During the second viewing of a program segment, you can stimulate the development of viewing and listening skills by showing the picture but turning off the sound and asking for recall of audio information. Alternatively, leave the sound on but eliminate the picture.
6. Both for viewing comfort and for note-taking convenience, TV should not be viewed in a dark room. However, light can also be a problem, so the television set should be located to avoid window reflection on the screen. To eliminate ceiling-light reflection, tilt the set forward slightly.
7. Ensure that all students have a clear line of sight to the set. If necessary, alter seating arrangements to give every student a satisfactory view of the screen.
8. Adjust the controls of the TV set to ensure good color balance, adequate brightness, and contrast.
9. In some cases, it is useful to have tapes and equipment available for independent viewing by individual students.

